

REMARKS/ARGUMENTS

Favorable reconsideration of this application is requested in view of the above amendments and in light of the following remarks and discussion.

Claims 1, 3-10, 12, and 15-20 are pending. Claims 2, 11, and 13-14 were canceled previously. Claims 1, 7, and 18 are amended. Claims 19 and 20 are newly added. Support for the amendments to Claims 1 and 7 can be found in Fig. 7, for example. Support for the amendment to Claim 18 is self-evident. Support for newly added Claims 19 and 20 can be found in the published application in numbered paragraphs [0076] and [0077], and in Figs. 10A, 10B, 12A, and 12B, for example. No new matter is added.

In the outstanding Office Action, Claims 1, 7-10, and 15-18 were rejected under 35 U.S.C. § 102(e) as anticipated by Kawano et al. (U.S. Patent No. 6,881,058, herein "Kawano"). Claims 3-6 and 12 were rejected under 35 U.S.C. § 103(a) as obvious over Kawano in view of Fukunaga et al. (U.S. Patent No. 6,743,395, herein "Fukunaga").

Regarding the rejection of Claims 1, 7-10, and 15-18 as anticipated by Kawano, that rejection is respectfully traversed by the present response.

Amended independent Claim 1 recites, in part:

a heating plate for heating the mask substrate, the heating plate including a front surface facing the mask substrate, the mask substrate disposed on a first side of the heating plate, the mask substrate including a side surface...

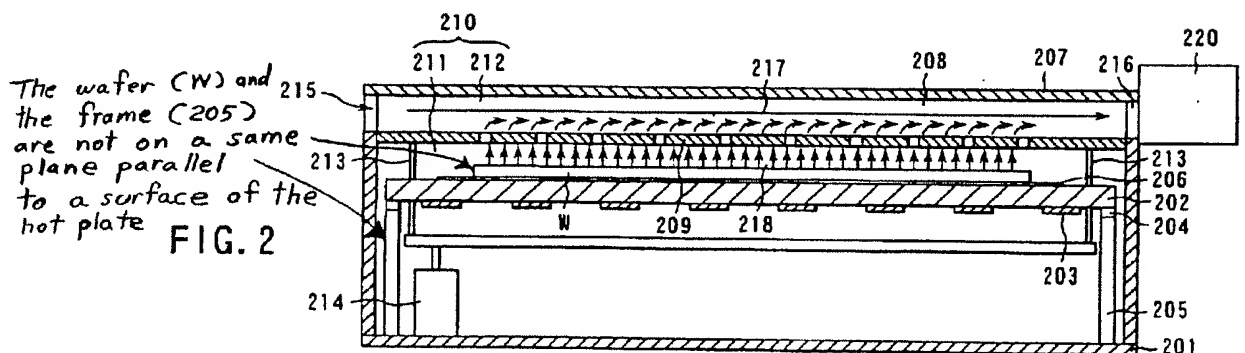
a frame member disposed on the first side of the heating plate so as to overlap the heating plate as viewed from the first side, the frame member including an inner peripheral surface directly opposite the side surface of the mask substrate such that a first clearance is disposed between the inner peripheral surface and the side surface, the frame member being detachably supported by the heating plate so that the frame member is disposed around the mask substrate, and the frame member and mask substrate are disposed within a same plane that is parallel to the front surface of the heating plate.

Accordingly, the frame member and mask substrate are disposed within a same plane that is parallel to the front surface of the heating plate. The front surface of the heating plate faces

the mask substrate. The mask substrate is disposed on a first side of the heating plate. The frame member is also disposed on the first side of the heating plate. The inner peripheral surface of the frame member directly opposes the side surface of the mask substrate.

The outstanding Office Action points to the frame (205) shown in Fig. 2 of Kawano for the feature of a frame member as recited in independent Claim 1.¹ The outstanding Office Action relies on the hot plate (202) for the feature of a heating plate as recited in Claim 1.² The outstanding Office Action relies on the wafer (W) for the feature of mask substrate.³ However, Applicants respectfully note that the frame (205) and wafer (W) are **not** disposed within a same plane that is parallel to a front surface of the hot plate (202). Rather, the frame (205), as shown in Fig. 2, is disposed well beneath the hot plate (202) and clearly separated from any plane parallel to a front surface of the hot plate (202) passing through the wafer (W).

As noted in Claim 1, the front surface of the heating plate faces the mask substrate. As shown in annotated Fig. 2 from Kawano provided below, the only surface of the hot plate (202) facing the wafer (W) is the top surface of the hot plate (202). No plane parallel to this surface passes through both the wafer (W) and the frame (205).



As is clear from Fig. 2 of Kawano provided above, the frame (205) and wafer (W) are not both on a plane parallel to a surface of the hot plate that faces the wafer (W).

¹ Outstanding Office Action, page 2.

² Outstanding Office Action, page 2.

³ Outstanding Office Action, page 2.

Accordingly, Applicants respectfully submit that amended independent Claim 1 patentably distinguishes over Kawano for at least the reasons discussed above.

Additionally, Kawano fails to teach or suggest that the frame member includes an inner peripheral surface directly opposite to a side surface of a mask substrate. Rather, as shown in Fig. 2, the frame (205) is completely isolated from the wafer (W) and includes no surface whatsoever directly opposite a side surface of the mask substrate. Accordingly, Applicants respectfully submit that amended independent Claim 1 further patentably distinguishes over Kawano for the additional reasons discussed above.

As discussed in the previous response, the mask substrate is disposed on a first side of the heating plate, and the frame member is also disposed on the first side of the heating plate.

In contrast, as discussed in the previous response, Kawano fails to teach or suggest that the wafer (W) and the frame (205) are disposed on a same side of the hot plate (202). In the Response to Arguments section, the outstanding Office Action asserts that Figs. 21, 23-24, 26-27, and 59A-59B suggest that the wafer (W) and frame are disposed on a first side of a heating plate. However, Applicants respectfully note that Figs. 21, 23-24, 26-27, and 59A-59B merely depict a wafer deposited on stations HP1-1 and HP2-1 via an arm. Applicants further respectfully submit that the top views depicted in the above-noted figures do not fairly suggest a frame member, much less a frame member disposed on a same side of a heating plate as a mask substrate. Thus, Applicants respectfully submit that Kawano fails to teach or suggest a frame member disposed on a same side of a heating plate as a mask substrate as recited in amended independent Claim 1. Accordingly, Applicants respectfully submit that amended independent Claim 1 further patentably distinguishes over Kawano for the additional reasons discussed above.

Amended independent Claim 7 recites substantially similar features to those discussed above regarding amended independent Claim 1 and patentably distinguishes over Kawano for at least the same reasons.

Additionally, Applicants respectfully submit that Kawano fails to teach or suggest a driving mechanism configured to move a frame member so that a distance between the frame member and the side surface of the mask substrate varies in a direction perpendicular to the side surface as recited in amended independent Claim 7. Accordingly, Applicants respectfully submit that amended independent Claim 7, in addition to patentably distinguishing over Kawano for the same reasons as amended independent Claim 1 does, further patentably distinguishes over Kawano because Kawano fails to teach or suggest the above-noted driving mechanism.

Claims 8-10 and 15-18 each depend from one of amended independent Claims 1 and 7 and patentably distinguish over Kawano for at least the same reasons as discussed above regarding the independent claims.

Regarding the rejection of Claims 3, 5, 6, and 12 as obvious over Kawano in view of Fukunaga, that rejection is respectfully traversed by the present response.

Claims 3, 5, 6, and 12 each depend from amended independent Claim 1 and patentably distinguish over Kawano for at least the same reasons as amended independent Claim 1 does.

The outstanding Office Action relies on Fukunaga for the specific interior shapes of the frame member recited in Claims 3-6 and relies on the theory of optimization for the features recited in dependent Claim 12.⁴

However, Applicants respectfully submit that Fukunaga fails to remedy the deficiencies discussed above regarding Kawano. The outstanding Office Action relies on the

⁴ Outstanding Office Action, pages 4-5.

cup-shaped scattering protective plate (162) for the feature of a frame member with convex, concave, mirrored, and/or rough surfaces as recited in dependent Claims 3-6. However, the cup-shaped scattering preventive plate (162) is not a frame member disposed on one side of a heating plate. Nor is it in a plane parallel to a surface of a heating plate (indeed no heating plate is described).

Furthermore, Fukunaga describes a process of producing ultrafine particles, and a person of ordinary skill in the art would not have been led to combine the cup-shaped scattering preventive plate with the substrate processing device described in Kawano inasmuch as the cup-shaped scattering preventive plate (162) is designed to prevent scattering of a fluid. Indeed, the cup-shaped scattering preventive plate (162) is meant to resist organic solvent, which is not used in bulk in the device described in Kawano.⁵ Rather, while the device of Kawano may be used to heat a substrate such that solvent evaporates from the substrate, the device of Kawano does not involve spraying and rotation such that the device would require the cup-shaped scattering preventive plate (162) described in Fukunaga. Therefore, Applicants respectfully submit that, not only does no reasonable combination of Kawano and Fukunaga teach or suggest all of the features recited in amended independent Claim 1, but a person of ordinary skill in the art would not look to the disparate subject matter of Fukunaga, which relates to a completely different process than Kawano, to remedy the deficiencies discussed above regarding Kawano. Accordingly, Applicants respectfully submit that amended independent Claim 1 and Claims 3-6 and 12 depending therefrom patentably distinguish over any reasonable combination of Kawano and Fukunaga for at least the reasons discussed above.

Newly added independent Claim 19 recites a processing apparatus including a frame member disposed above a front surface of a heating plate. The frame member includes a

⁵ Fukunaga, col. 18, lines 61-64.

plurality of separate plates. A driving mechanism is connected to the frame member through an opening in the heating plate. The driving mechanism is controlled to move at least one of the plurality of plates in a direction parallel to the front surface of the heating plate.

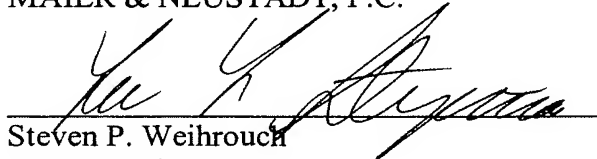
In contrast, neither of Kawano and Fukunaga teaches nor suggest a frame member disposed above a front surface of a heating plate, wherein the front surface faces upward. Nor do either of the cited references teach or suggest that the frame member includes a plurality of separate plates. Nor do either of the cited references teach or suggest a controlling portion that directs the driving mechanism to move at least one of a plurality of separate plates in a direction parallel to the front surface of the heating plate as recited in newly added independent Claim 19. Accordingly, Applicants respectfully submit that newly added independent Claim 19 and Claim 20 depending therefrom patentably distinguish over any proper combination of the cited references for at least the reasons discussed above.

For the foregoing reasons, it is respectfully submitted that this application is now in condition for allowance. A Notice of Allowance for Claims 1, 3-10, 12, and 15-20 is earnestly solicited.

Should Examiner Luu deem that any further action is necessary to place this application in even better form for allowance, he is encouraged to contact Applicants' undersigned representative at the below-listed telephone number.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Steven P. Weihrouck
Attorney of Record
Registration No. 32,829

Customer Number

22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/07)
I:\ATTY\LS\24s\248795US\248795US-AM-DUE-11-22-07.DOC

Lee L. Stepina
Registration No. 56,837